



CITY OF DICKINSON



STORM WATER MANAGEMENT PLAN

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Section 1 Definitions

Best Management Practice- schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. Best management practices also include treatment requirements, operating procedures, practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Control Measure – any best management practice or other method used to prevent or reduce the discharge of pollutants.

Discharge – when used without a qualifier, refers to the discharge of storm water runoff or certain nonstorm water discharges as allowed under the authorization of this general permit.

Illicit Connection – any manmade conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

Illicit Discharge – any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a National Pollutant Discharge Elimination System permit (other than the municipal separate storm sewer).

Municipal Separate Storm Sewer System – a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curb, gutters, ditches, manmade channels, or storm drains.

National Pollutant Discharge Elimination System (NPDES) – National program for issuing, modifying, revoking and reissuing, terminating, imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA.

Outfall – a point source at the point where a municipal separate storm sewer discharges to waters of the United States.

Permitting Authority – for the purposes of this general permit, the TCEQ.

Storm Water – storm water runoff, snow melt runoff, and surface runoff and drainage.

Watershed – The region draining into a river, river system, or other body of water.

Waters of the United States – Waters of the United States or waters of the U.S. means:

(a) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) all interstate waters, including interstate wetlands;

(c) all other waters such as interstate lakes, rivers, streams (including intermittent streams),

mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds that the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

- which are or could be used by interstate or foreign travelers for recreational or other purposes;
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
- which are used or could be used for industrial purposes by industries in interstate commerce;

(d) all impoundments of waters otherwise defined as waters of the United States under this definition

(e) tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) the territorial seas; and

(g) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Section 2 Introduction

Section 2.1 Regulatory Requirement

The Environmental Protection Agency (EPA), under the Clean Water Act (CWA), regulates discharges by issuance of National Pollutant Discharge Elimination System (NPDES) permits. The 1972 amendment to the CWA prohibits discharge of any pollutant into the waters of the United States from a point source unless the discharge is authorized by a NPDES permit. The NPDES program initially targeted easily detected sources of water pollution such as municipal sewage and industrial process wastewater and was successful in improving water quality impairment – non-point sources such as runoff from agricultural and forestry operations, and storm water runoff.

Congress further amended the CWA in 1987 and required the EPA to establish NPDES requirements for storm water discharges. A comprehensive, two phase approach to storm water control was established. On November 15, 1990, the EPA published (55 Federal Register 47990) initial permit application regulations for 11 categories of storm water discharges associated with industrial activity and from drainage systems located in municipalities with a population of 100,000 or more. The Phase I storm water regulations required large sources of storm water discharge to apply for NPDES permits. Large sources include medium and large municipal storm sewer systems usually serving 100,000 people or more, as well as several categories of industrial activity including construction activity disturbing five or more acres of land.

In 1998, the Texas Commission for Environmental Quality (TCEQ) was delegated authority to administer the NPDES permitting program in Texas. The Texas Pollutant Discharge Elimination System (TPDES) program now has federal regulatory authority over discharges of pollutants to Texas surface waters.

The NPDES Phase II rule, promulgated in December 1999, expanded the scope of the NPDES program to include smaller local governments. Dickinson and other small municipalities (population under 100,000) that manage their storm water facilities are regulated as Phase II municipalities under the NPDES/TPDES municipal separate storm water system (MS4) permit requirements. Phase II cities are required to obtain coverage under the TCEQ General Permit within 90 days of the permit issuance date. The permit will cover five years.

Under the Phase II storm water regulations, a Storm Water Management Plan (SWMP) must be developed for Dickinson, to the extent allowable under state and local law, and implemented according to the requirements of Part III of General Permit TXR040000 for stormwater discharges that reach waters of the United States. The SWMP should be developed to prevent pollution in storm water to the extent practicable and effectively prohibit illicit discharges to the municipal storm sewer system.

The final rule requires the permittee to choose appropriate best management practices (BMPs) for each of the six minimum control measures (MCMs). In other words, the EPA expects Phase II permittees to tailor their storm water management plans and their BMPs to fit the particular characteristics and needs of the permittee and the area served by its MS4. Therefore, the operator of a regulated storm sewer system can take advantage of the flexibility provided by the rule to utilize the most suitable MCMs for its MS4.

The TCEQ is expected to issue a General Permit for storm water discharges from Phase II cities in Texas in February 2008. Phase II cities will be required to obtain General Permit coverage through issuance of their own TPDES permit within 90 days of the permit issuance date. According to the draft permit, the City will be given five years to fully implement a Storm Water Management Program (SWMP) once the final permit is issued. The City will be required to submit annual reports to TCEQ during this time.

Section 2.2 Scope and Areas of Focus

The City of Dickinson, as an operator of a small MS4, is required to reduce the discharge of pollutants to water of the State and the United States to the “maximum extent practicable” to protect water quality. The primary purpose of the SWMP is intended to help the City fulfill certain State and Federal water quality requirements and to meet local water resources management objectives. Through the implementation of policies and management practices, Dickinson hopes to reduce the discharge of pollutants to surface waters of the United States.

At minimum, the SWMP must address the following issues:

- Specify Best Management Practices (BMPs) for six minimum control measures (MCMs) and implement them to the “maximum extent practicable”;
- Identify measurable goals for these control measures;
- Develop an implementation schedule for these control measures or frequency of activities; and
- Define the responsible entity to implement these control measures.

With regard to the five BMPs for Level 2 MS4’s as defined by the EPA are as follows:

- Public Education Outreach and Involvement – The MS4 is required to develop and implement a storm water education and outreach program, or equivalent outreach activities to educate public employees, businesses and the general public about hazard associated with the illegal discharges and improper disposal of waste and about the impacts storm water can have on water quality and steps they can take to reduce pollutants in storm water.

- Illicit Discharge Detection and Elimination – The MS4 must develop, implement, and enforce a program to detect and eliminate illicit discharges.
- Control of Construction Site Runoff – The MS4 is required to develop, implement, and enforce a program to address storm water runoff from construction one acre and greater (including larger common plan of development or sale).
- Post-Construction Storm Water Management – The MS4 is required to develop, implement, and enforce a program to address storm water runoff from new development and redevelopment sites that discharge into the small MS4 that disturb one acre or more, including projects that disturb less than one acre that are part of a larger common plan of development or sale.
- Pollution Prevention and Good Housekeeping for Municipal Operations – The MS4 is required to develop and implement an operation and maintenance program that has the goal of preventing/reducing pollutant runoff from the municipal operations and has an employee training component.

Section 3 Program Overview

Section 3.1 City Background

The City of Dickinson is a culturally diverse community with a population of approximately 20,000 located on Interstate 45 approximately 24 miles south of Houston and 24 miles north of Galveston. Dickinson Bayou bisects the City of Dickinson running from west to east into Galveston Bay. Dickinson Bayou has several tributaries including Dickinson Bayou Tidal, Bensons Bayou, Bordens Gully, Geisler Bayou, and Gum Bayou.

Section 3.2 City Organization

The City of Dickinson is a limited-service municipality providing the highest quality of affordable services to meet the needs of its citizens. The City was incorporated in 1977 and adopted a home rule form of government in 1987. Pursuant to its Home Rule Charter, Dickinson is authorized to establish and enforce its ordinances, including ordinances regulating various storm water elements. Dickinson's Home Rule Charter provides for a hybrid form of government combining characteristics of a mayor-council form with a council-manager form. Dickinson is governed by a mayor and six council members that are elected for a term of three years with no term limits. However, the Council appoints a City Administrator who acts as chief executive officer of the City. The Mayor and City Council are responsible for establishing the legislative policies, goals and objectives of the City, and the City Administrator is responsible for implementing those policies, goals and objectives. The City Administrator administers all City programs and oversees the day-to-day operations of the City. All department heads are ultimately responsible to the City Administrator.

Section 3.3 Key Personnel

The City of Dickinson is uniquely positioned to implement a storm water program due to existing personnel and resources available in the various City departments. Existing City departments currently performing functions generally associated with the implementation of a storm water program include Public Works, Community Development, Code Enforcement, Fire Marshal's Office and the City Administrator's Office.

In addition, the City of Dickinson partners with Keep Dickinson Beautiful, a nonprofit organization, and Galveston County Water Control and Improvement District No. 1 to assist some of its environmental public outreach and education programs. Through its Reduce, Reuse

and Recycle Program, Keep Dickinson Beautiful helps motivate citizens to improve their neighborhoods and create a healthier, safer, and more livable community.

Section 3.4 City Drainage Operations

The City of Dickinson recognizes the importance of consistent, uniform, and integrated management of storm water operations, design standards, and capital improvements within its jurisdiction.

The Street/Drainage Division within the Public Works Department is responsible for the administration and operation of the City's public streets, sidewalks, bridges, and drainage system.

The Street/Drainage Division infrastructure responsibilities include:

- 64 miles of streets
- 26 acres of right-of-way and drainage easements mowed
- 21 miles of sidewalks
- 42 miles of storm /open ditches
- 15 bridges

The Street Division is responsible for providing street sweeping services for major collector streets and intersections of City streets. The primary objective of the street-sweeping program is to provide routine sweeping and cleaning of high traffic areas throughout the City where accumulations of debris occur.

The Drainage Division is responsible for the mowing of approximately 26 acres of public rights-of-way (ROW) and drainage easements throughout the City. Rough cut mowing is done 11 times throughout the year, and groom cut mowing is done on an as-needed basis.

The Street/Drainage Division is responsible for the inspection and maintenance of 42 miles of storm sewer lines and open ditches. This Division is also responsible for inspection and cleaning 22,728 feet of boxed culverts and 126,639 feet of storm inlets during and after rain events. Additionally, the Division is responsible for maintaining a positive flow for all open ditches. Periodic re-grading is required when the ditches become overly silted and stagnant.

Section 3.5 MS4 Jurisdictional Overlap

The City of Dickinson's drainage operations have jurisdictional overlap with several drainage districts – Galveston County Drainage District No. 1 and Galveston County Drainage District No. 2 (“Drainage Districts”). These Drainage Districts are partially or fully located within the corporate City limits of Dickinson and have similar authority and responsibility over drainage operations within their boundaries as the City. These drainage districts are considered MS4s and are subject to the NPDES storm water requirements. To the extent possible, the City will coordinate with the drainage districts and work through the political ramifications of these overlays to minimize duplication of efforts in Phase II compliance.

Storm water and drainage activities in Dickinson are implemented through the City of Dickinson and the Drainage Districts. Funding for each Drainage District's activities is approved by its respective Drainage District Board. The primary mission of the Drainage District is to maintain the drainage channels where the drainage district has easements in their existing flow conditions. The Drainage District accomplishes this through appropriate structural repairs and vegetation control. Secondly, the Drainage District provides a review of plats and drainage plans of new development to be approved by the Galveston County Commissioners Court to assure the elimination of an adverse drainage impact in current and future residents.

Each Drainage District's primary activities are associated with flood control in Galveston County. Neither Drainage District owns or maintains storm sewer systems or drainage facilities other than channels. Each Drainage District is well equipped to maintain large drainage channels and each does so today. However, neither is currently well-positioned to be the primary entity for implementing a comprehensive storm water program including all the Minimum Control Measures (MCMs).

While the Drainage Districts are each considered an MS4 and subject to the NPDES storm water requirements, and each plays an important role in the overall development of a storm water program for Dickinson, their organizational structure and overall mission is not considered to be an efficient model for developing a comprehensive storm water program. To the extent possible, the Drainage Districts will be included in any discussions concerning a program in Dickinson and potentially could provide some service to the program, especially related to maintenance, if needed in the future.

Section 3.6 NPDES Phase II Minimum Control Measures

The Plan describes a menu of BMPs to address pollutants and their causes identified as the most prevalent or problematic in the watersheds served by Dickinson by implementing the following minimum control measures:

Public Education, Outreach and Involvement

Illicit Discharge Detection and Elimination

Control of Construction Site Runoff

- The MS4 is required to develop, implement, and enforce a program to address storm water runoff from construction one acre and greater (including common plan of development, or sale).

Post-Construction Storm Water Management

Pollution Prevention and Good Housekeeping for Municipal Operations

- The MS4 is required to develop and implement an operation and maintenance program that has the goal of preventing/reducing pollutant runoff from the municipal operations and has an employee training component.

For the SWMP, Dickinson must identify BMPs that will be implemented over the five year permit term, implementation schedule, responsible persons, and measurable goals by which the permittee will self-report progress in an Annual Report to the TCEQ. Existing programs or BMPs may also be used to fulfill the requirements of the general permit.

Section 3.7 Capacity and Authority of MS4s to Implement and Enforce MCMs and BMPs

According to the EPA regulations at 40 CFR 122.34 (a), the MS4 permit will require, at a minimum, that the MS4 develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the MS4, to the maximum extent practicable, to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act. The MCMs that have specific enforcement requirements are:

- Illicit Discharge Detection and Elimination – The illicit discharge MCM requires the MS4 to develop, implement and enforce a program to detect and eliminate illicit discharges into the MS4. The MS4 must prohibit non-storm water discharges into the storm sewer system and implement appropriate enforcement procedures and actions and develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, into the storm sewer system.
- Construction Site Storm water Runoff Controls – The construction site runoff MCM requires the MS4 to develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre (or less than an acre if it is part of a larger common plan of development). The MS4 must have a regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance. Examples of sanctions to ensure compliance include non-monetary penalties, fines, bonding requirements, and/or permit denials for noncompliance
- Post-Construction Storm water Management in New Development and Redevelopment – The post-construction MCM requires the MS4 to develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre (including projects less than one acre that are part of a larger common plan of development). The program must ensure that controls are in place that would prevent or minimize water quality impacts. The strategy must include a combination of structural and nonstructural controls.

While an MS4 only has to develop an enforcement program to the extent allowable by state or local law, they must have a program that will reduce the discharge of pollutants from the MS4, to the maximum extent practicable, protect water quality, and satisfy the appropriate water quality requirements of the Clean Water Act. This will require effective enforcement mechanisms.

Section 4 Minimum Control Measures (MCMs)

MCM 1 Public Education, Outreach and Involvement

40 CFR 122.34(b)(1) – Implement a public education program to distribute educational materials to the community of contact, equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps the public can take to reduce pollutants in storm water runoff.

40 CFR 122.34(b) (2) – At a minimum, comply with state, tribal, and local public notice requirements when implementing a public involvement/participation program. EPA recommends that the public be included in developing, implementing, and reviewing your storm water management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups.

Selected BMPs for Public Education, Outreach and Involvement

BMP	BMP Description	Measurable Goals	Responsibility	Target Date
1.1 City Website	Use city’s website to post storm water quality related information and the adopted SWMP for the general public	Post one storm water quality related message during each permit year and continuously post the City’s dedicated Storm Water page	Public Works	Year 1-5
1.2 Utility Bill Insert	Raise awareness of storm water issues for citizens by placing informational inserts in the water utility bill	Include one (1) water utility bill insert during each permit year.	City of Dickinson/Galveston County Water Control & Improvement District No. 1	Year 1-5

BMP	BMP Description	Measurable Goals	Responsibility	Target Date
1.3 Legal Public Notice	Comply with federal, state, and local public notice requirements when implementing the SWMP	Follow public notice requirements specified in general permit	City Secretary	Year 1-5
		Maintain copies of legal public notice	City Secretary	Years 1-5
1.4 Trash Bash	Dickinson Bayou clean up	Conduct one time per year during each permit year	Keep Dickinson Beautiful	Years 1-5
1.5 Public Speaking Engagement	Keep citizens and other stakeholders involved in the decision making process for managing the SWMP	Make one presentation to a Community group each permit year.	City of Dickinson/ Galveston County Health District	Years 1-5

MCM 2 Illicit Discharge Detection and Elimination

40 CFR 122.34(b) (3) – Develop, implement, and enforce a program to detect and eliminate illicit discharges into your small MS4. Develop a storm sewer system map showing the location of all outfalls and the names of the locations of all waters of the U. S. that receive discharges from those outfalls. To the extent allowable under state or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement a plan to detect and address non-storm water discharges including illegal dumping to your system. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

Selected BMPs for Illicit Discharge Detection and Elimination

BMP	BMP Description	Measurable Goals	Responsibility	Target Date
2.1 Illicit Discharge Ordinance	Continue to comply with ordinance to effectively prohibit non-storm water discharges into the storm sewer system and implement enforcement procedures and actions	Monitor existing ordinances that may require modification	City Administration Public Works	Year 1-5
2.2 Implement Enforcement Procedures and Actions on Illicit Discharge Ordinance	The City will enforce existing illicit discharge regulations during each permit year on the illicit discharge ordinance.	The City will monitor and enforce illicit discharge regulations.	Public Works Department Fire Marshal Code Enforcement	Year 1-5
3.3 Perform Water Testing of Dickinson Bayou	The City will perform water testing of Dickinson Bayou	The City currently has an agreement with the Galveston County Health District to provide water testing for Dickinson Bayou twice per calendar year and provide the City with written reports.	Public Works Department Galveston County Health District	Year 1-5

2.4 Oil and Oil Filter Recycling	Maintenance and recycle fluids from the Public Works Department vehicles.	The City will successfully recycle 50 gallons of oil and 15 oil filters during each permit year.	Public Works Department	Year 1-5
2.5 Review and update drainage System Map	The City will review and update the drainage system map to include new growth.	The drainage system map is updated continually by Galveston County WCID #1 and is available to the City.	Public Works Department WCID #1	Year 1-5

MCM 3 Control of Construction Site Runoff

40 CFR 122.34 (b)(4) – Develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Program must include: the development and implementation of (at a minimum) an ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, requirements for construction site operators to implement appropriated erosion and sediment control BMPs, requirements for construction site operators to control waste at the construction site, procedures for site plan review which incorporate consideration of potential water quality impacts, procedures for receipt and consideration of information submitted by the public.

Selected BMPs for Control of Construction Site Runoff

BMP	BMP Description	Measurable Goals	Responsibility	Target Date
3.1 Informational Brochure for Construction Personnel	Search available literature or develop construction site storm water quality management brochure	Distribute brochures during the application process necessary to obtain a building and or land use permit	Community Development Public Works Department	Year 1-5
3.2 Review Construction Site Plans	Require the inclusion of erosion control measures in plans and specifications in all projects in compliance with and requiring compliance with the TPDES General Permit and all other state regulations	Continue to require erosion control plans in construction site plan submittals	Community Development Public Works Department	Year 1-5
3.3 Inspect Erosion Control Measures	Inspection of the infrastructure and effectiveness of the required erosion control measures used on applicable construction projects	Continue to inspect general erosion control measures during inspections Document any violations and provide follow-up inspections ensuring enforcement of permit provisions	Public Works Department Fire Marshal	Year 1-5 Year 1-5

MCM 4 Post-Construction Storm Water Management

40 CFR 122.34 (b)(5) – Develop, implement and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects that are less than one acre that are part of a larger common plan of development or sale, that discharge into your small MS4. Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for your community. Use an ordinance or other regulatory mechanism to address post-construction runoff. Ensure adequate long-term operation and maintenance of BMPs.

Selected BMPs for Post-construction storm water management

BMP	BMP Description	Measurable Goals	Responsibility	Target Date
4.1 Post – Construction Storm Water Management Regulations	Review and revise, if necessary, City’s regulations to address storm water runoff issues from new development, or redevelopment.	The City will review and as necessary.	Public Works Department Fire Marshal	Year 1-5
4.2 Post – Construction Development Review Procedures	Review and revise, if necessary, City’s development review procedures in order to reflect any revisions to the post – construction storm water management regulations that may be adopted.	The City will review and revise as necessary	Public Works Department Fire Marshal	Year 1-5

MCM 5 Pollution Prevention and Good Housekeeping

40 CFR 122.34 (b) (6) – Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

Selected BMPs for Pollution Prevention and Good Housekeeping

BMP	BMP Description	Measurable Goals	Responsibility	Target Date
6.1 Storm Sewer Cleaning	Clean debris from storm drains	Review current operations and procedures and prioritize locations on an as-needed basis	Public Works Department	Year 1-5
6.2 Street Sweeping	Street sweeping will capture pollutants from street surfaces before they are washed into the storm drainage system and discharged into local waterways	The City will sweep all curb and gutter neighborhoods and high traffic areas on a quarterly basis.	Public Works Department	Year 1-5
6.3 Train all incoming Public Works staff	Train all new Public Works staff on good housekeeping and the city's storm water ordinance.	The city will provide written documentation of the employees training.	Public Works Department	Year 1-5